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**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Docket Number (Optional):

**4740-229/P18425-US2**

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Date: **January 23, 2008**

Signature:

Typed or printed name: **KATHLEEN KOPPEN**

Application Number:

**10/718,939**

Filed:

**November 21, 2003**

First Named Inventor:

**Mr. Patrick A. Hoselin**

Art Unit:

**2616**

Examiner:

**GARY MUI**

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor

☐ assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.

(Form PTO/SB/96)

☒ attorney or agent of record

Registration Number: 32,194

☐ attorney or agent acting under 37 CFR 1.34.

Registration Number if acting under 37 CFR 1.34 \_\_\_\_\_



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January 23, 2008

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language translation is attached. This collection of information is required by 37 CFR 1.88. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of  
**Hosein**

Serial No.: **10/718,939**

Filed: **November 21, 2003**

For: **Common Rate Control Method for  
Reverse Link Channels in CDMA Networks**

Docket No: **4740-229**

PATENT PENDING

Examiner: Gary Mui

Group Art Unit: 2616

Confirmation No.: 2915

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January 23, 2008

Date

*Kathleen Keppen*  
Kathleen Keppen

This correspondence is being:

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**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

The applicant presents the following remarks in support of the Pre-Appeal Brief Request for Review attached herewith. If any fees not covered by the electronic payment are required, please charge them to Deposit Account No. 18-1167.

In the Final Office Action mailed 27 September 2007 and in the Advisory Action mailed 12 December 2007, the Examiner maintained all rejections against claims 1 – 44. In particular, the Examiner asserts U.S. Patent No. 6,999,425 (hereinafter Cheng) anticipates independent claims 1 and 23. Further, the Examiner asserts that claims 8-11 and 30-33 are rendered obvious over Cheng in view of U.S. Patent No. 6,490,460 (hereinafter Soliman) and claims 20 and 42 are rendered obvious over Cheng in view of U.S. Patent 6,397,070 (hereinafter Black).

However, as detailed below, none of these references teach or suggest the claimed invention and thus, all rejections fail as a matter of law.

The claims are directed to a method and apparatus for implementing common rate control in a reverse link channel in a CDMA network. Common rate control is one technique for controlling the data transmission rate of mobile stations on the reverse link. A base station periodically (e.g., once per frame) estimates the reverse link load and sends rate control commands to the mobile stations based on the current load at the base station. Typically, the base stations sends a "1" to instruct the mobile stations to increase their data rate and sends a "0" to instruct the mobile terminals to decrease their data rate. With common rate control, a single rate control command is sent to a group of mobile stations. Thus, all mobile stations in the group will increase or decrease their data rates in unison with one another, resulting in large fluctuations in load at the base station.

The present invention avoids large fluctuations in load at the base station by introducing a probabilistic rate change mechanism. The rate control commands can be viewed as load indications. The mobile stations filter the rate control commands (load indications) to generate a load tracking value. The load tracking value is then used to determine a rate change probability. The rate change probability computed at each mobile station determines the probability that it will change its data transmission rate in the current evaluation period responsive to the rate control command/load indication. For example, if the rate change probability is .66, then two-thirds of the mobile stations will increase their data rate responsive to a "1." As a result, some of the mobile stations will change rates while other mobile stations will continue to transmit at their current rate.

Independent claims 1 and 23 have been rejected under 35 U.S.C. § 102 in view of the patent to Cheng et al., U.S. 6,999,425 (Cheng). Cheng describes a method implemented at a base station to set a maximum rate limit for the reverse link channel. In Cheng, the aggregate data transmission rate for all mobile stations transmitting on the reverse link is computed. The

aggregate data transmission rate is then filtered and normalized to obtain the maximum achievable aggregate data rate for the reverse link. The final result is compared with a set of thresholds to obtain the maximum rate limit that is set for each mobile station. For example, if the reverse link load is 100% of the maximum load, the rate limit is equal to 9.6%. See Cheng, col. 6, ll. 40-48; Fig. 3. If the reverse link load is 50% of the maximum load, the rate limit is set to 76.8. See Cheng, col. 6, ll. 40-48; Fig. 3. Presumably, the base station in Cheng sends the rate limit to the mobile stations, but does not send rate control commands/load indications to the mobile station, as required by claim 1. On the contrary, Cheng suggests that the mobile stations autonomously change their rate up to the rate limit set by the base station.

A rejection under 35 U.S.C. §102(b) requires the presence of every limitation. Cheng discloses none of the elements of claim 1. Specifically, independent claim 1 is directed to a method of adjusting the transmission rate of a mobile station and includes four elements. The first element is "receiving periodic load indications from a base station." There is no indication that the base station in Cheng transmits a periodic load indication to the mobile stations. Instead, Cheng uses the reverse link load to compute a maximum rate limit for the mobile stations. Claim 1 further recites "calculating a load tracking value based on two or more periodic load indications," and "determining a rate change probability as a function of the load tracking value." Further, there is no mention in Cheng of a "load tracking value" or a "rate change probability." Moreover, the Examiner does not identify any disclosure in Cheng that corresponds to the claimed load tracking value and rate change probability. Finally, claim 1 recites "selectively changing the transmission rate of the mobile station responsive to a current rate control command based on the rate change probability." In other words, the mobile stations will determine whether to change rates responsive to the rate control command based on the rate change probability. As a result, some mobile stations will change rates while other will

not. Cheng does not disclose anything that even remotely resembles this probabilistic rate change mechanism. Accordingly, claim 1 does not be anticipated by Cheng.

Claim 23 is directed to a mobile station that practices the method set forth in claim 1. Claim 30 recites "a receiver for receiving periodic load indications from a base station," and "a controller to vary the data transmission rate of the mobile station." Claim 23 further recites that the controller is configured to "calculate a load tracking value based on two or more periodic load indications," "determine a rate change probability as a function of the load tracking value," and "selectively change the data transmission rate of the mobile station responsive to a current rate control command based on the rate change probability." As discussed above, Cheng does not disclose "receiving periodic load indications from a base station." Further, Cheng does not disclose the claimed functions of the controller. Specifically, Cheng does not disclose calculating a load tracking value, determining a rate change probability based on the load tracking value, or selectively changing the data transmission rate as set forth in claim 23. Consequently, Cheng does not anticipate claim 23.

Soliman discloses a method and apparatus for dynamically adjusting a power control loop for either forward link or reverse link communications. Applicant notes that Soliman relates to a method of power control, as compared to the claimed invention, which relates to a method of rate control. Soliman is cited only against claims 8-11 and 30-33. There is no indication by the Examiner that Soliman discloses the elements of independent claims 1 and 23.

Black discloses a method and apparatus for estimating reverse link loading in a wireless communication system. The background of the invention suggests that the reverse link loading may be used for access control; that is, to admit or deny access to the system based on the reverse link load. There is no discussion of rate control. Further, Black does not disclose the calculating, determining, and selecting operations set forth in independent claims 1 and 23.

Based on the foregoing, the claimed invention is patentable over the prior art made of record and Applicant requests that the Pre-Appeal Brief Panel reverse the examiner's rejections.

Respectfully submitted,

**COATS & BENNETT, P.L.L.C.**

A handwritten signature in cursive script, reading "David E. Bennett", is written over a horizontal line.

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January 23, 2008

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